

## Intel® Pentium® 4 Processor

The Center of Your Digital World

### Advancing the Desktop Platform

- Intel® Chipset
- Complete solutions
- Stable, reliable hardware and software
- Innovative products and technology

### Exciting New Chipsets for the Intel® Pentium® 4 Processor

Intel® 875P Chipset Delivers the full potential of the Pentium® 4 Processor with Hyper-Threading Technology with an 800-MHz FSB, Intel® Performance Acceleration Technology, and dual-channel DDR400 memory.

Intel® 865PE Chipset Delivers outstanding performance of the Pentium® 4 Processor with Hyper-Threading Technology with an 800-MHz FSB, dual-channel DDR400 memory, and Serial ATA150.

Intel® 865G Chipset Delivers enhanced Intel® Extreme Graphics 2, 800-MHz FSB, and DDR400 memory for platform performance.

Intel® 865P Chipset Enables support for DDR333 memory technology and dual independent Serial ATA150 controllers.

### Key Features

Intel® Extreme Graphics 2 Enhanced graphics core tuned to take advantage of the dual-channel memory that delivers an intense and realistic visual experience for the latest 3D applications.

Intel® Performance Acceleration Technology (PAT) Delivers additional system level performance by optimizing memory access between the processor and system memory for platforms configured with 800FSB and DDR400.

Optimized for Hyper-Threading Technology<sup>†</sup> Unmatched system performance with Intel® Pentium® 4 Processor with Hyper-Threading Technology matched with chipsets supporting 800-MHz system bus and dual-channel DDR400 system memory.

Serial ATA150 Dual independent Serial ATA150 controllers provide the bandwidth for fast disk transfers.

Integrated Intel® RAID Controller Additional system-level performance with RAID 0 using the optional Intel® ICH5R.

Hi-Speed USB 2.0 Up to 40x the bandwidth of USB 1.1 with the same ease-of-use and backward compatibility.

## Intel® Pentium® 4 Processor

Designed to Deliver Performance Where Users Need It Most

### Features

Clock Speeds of 1.8 GHz and Above

New 0.13 Process Technology

Hyper-Threading Technology<sup>†</sup>

Level 2 Advanced Transfer Cache\*

■ 256 KB

■ 512 KB

Hyper-Pipelined Technology

Advanced 800-MHz System Bus\*

Enhanced Floating Point and Multimedia Unit

Second Generation Streaming SIMD Extension (SSE2)

### Benefits

Intel's fastest desktop processor brings users cutting-edge performance today and tomorrow.

Enables faster processors with reduced power requirements.

Hyper-Threading (HT) Technology is Intel's latest groundbreaking technology that enables the processor to execute instruction threads in parallel. It allows the processor to complete more tasks in a given amount of time—maximizing the efficiency of the processor, and improving system performance and responsiveness.

Enables efficient processing of instructions for a responsive computing experience.

More efficient processing of instructions for quick, agile computing.

A 20-stage instruction pipeline allows the Pentium® 4 processor to achieve the world's highest clock speed to date.

Higher front side bus for faster data transfers and improved performance for the most demanding applications.

Accelerates video, graphics, image processing and scientific calculation.

144 new instructions boost the performance for video, speech recognition, encryption and security technologies.

Motherboard Selector Guide  
[www.intel.com/go/boards](http://www.intel.com/go/boards)

## Intel® Pentium® 4 Processor

Consumer and Business Messages

### Consumer Messages

Intel® Pentium® 4 Processor with HT Technology and the Intel® 875P chipset deliver Intel's highest-performing desktop platform for gaming and digital media creation.

Hyper-Threading Technology allows software to "see" two processors instead of one.

Turbo boost your PC with Hyper-Threading Technology for intense 3D and fast interaction.

Power to run demanding applications at the same time, like managing your photos while scanning viruses in the background, without sacrificing performance.

Performance for today's digital media and gaming applications and designed to handle the future of software and computing innovation.

### Business Messages

Intel® Pentium® 4 processors supporting Hyper-Threading Technology and Intel® 865G chipset best support multitasking for IT environments (virus checking, encryption, compression, etc.)

Platform features for today's and tomorrow's leading business applications.

Intel® Extreme Graphics 2 for enhanced ability to create media-intensive content.

High performance for advanced applications, such as financial, scientific, and engineering computations.

Leading technologies such as 800-MHz FSB, DDR400 system memory, Integrated Serial ATA, and Intel® Communications Streaming Architecture Bus for demanding business applications.

<sup>†</sup>Hyper-Threading Technology requires a computer system with an Intel® Pentium® 4 processor supporting HT Technology and an HT Technology enabled chipset, BIOS and operating system. Performance will vary depending on the specific hardware and software you use. See [www.intel.com/info/hyperthreading](http://www.intel.com/info/hyperthreading) for more information including details on which processors support HT Technology.

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The Intel® Pentium® 4 processor, Intel® 875P chipset, Intel® 865PE chipset, Intel® 865G chipset, Intel® 865P chipset, Intel® 845PE chipset, Intel® 845GE chipset, Intel® 845GV chipset, Intel® 845GL chipset, Intel® 848P chipset and Intel® 865GV chipset may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

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\* See your Intel representative for availability of specific configurations.

For more information, visit the Intel Web site at: <http://developer.intel.com>

Check out the latest motherboards in the Intel® Motherboard Selector Guide  
<http://www.intel.com/go/boards>

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Order Number: 298135-011  
Printed in USA/0903/10K/MI/LB/DN

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## Intel® Chipset Comparison Chart



Performance/Mainstream Products					Mainstream/Value Products				
Feature	Intel® 875P Chipset	Intel® 865PE Chipset	Intel® 865G Chipset	Intel® 865GV Chipset	Intel® 848P Chipset	Intel® 845PE Chipset	Intel® 845GE Chipset	Intel® 845GV Chipset	Intel® 845GL Chipset
Target Segment	Performance PC	Perf/Mainstream PC	Perf/Mainstream PC	Perf/Mainstream PC	Perf/Mainstream PC	Mainstream PC	Mainstream PC	Mainstream/Value Chipset	Value Chipset
Processor Positioned	Intel® Pentium® 4 processor	Pentium 4 processor	Pentium 4 processor	Pentium 4 processor	Pentium 4 processor	Pentium 4 processor	Pentium 4 processor	Pentium 4 processor	Pentium 4 processor
System Bus	800/533 MHz (data)	800/533/400 MHz (data)	800/533/400 MHz (data)	800/533/400 MHz (data)	800/533/400 MHz (data)	533/400 MHz (data)	533/400 MHz (data)	533/400 MHz (data)	400 MHz (data)
# DIMMs/Max Memory	2 DIMMs/2 ch/4GB	2 DIMMs/2 ch/4GB	2 DIMMs/2 ch/4GB	2 DIMMs/2 ch/4GB	2 DIMMs/1 ch/2GB	2 DIMMs/1 ch/2GB	2 DIMMs/1 ch/2GB	2 DIMMs/2 ch/4GB	2 DIMMs/1 ch/2GB
Memory Type-Desktop	DDR 400/333/266 SDRAM	DDR 400/333/266 SDRAM	DDR 400/333/266 SDRAM	DDR 400/333/266 SDRAM	DDR 400/333/266 SDRAM	DDR 333/266 SDRAM	DDR 333/266 SDRAM	DDR 333/266 or PC133 SDRAM	DDR 266/200 or PC133 SDRAM
Dual Channel DDR	Yes	Yes	Yes	Yes	Yes	No	No	No	No
ECC/Parity	Yes	No	No	No	No	No	No	No	No
Integrated Graphics	N/A	N/A	Intel® Extreme Graphics 2	Intel Extreme Graphics	N/A	N/A	Intel Extreme Graphics	Intel Extreme Graphics	Intel Extreme Graphics
External Graphics Interface	AGP8X	AGP8X	AGP8X	No	AGP8X	AGP4X	AGP4X	No	No
PCI Masters	6	6	6	6	6	6	6	6	6
IDE	UDMA ATA100	UDMA ATA100	UDMA ATA100	UDMA ATA100	UDMA ATA100	UDMA ATA100	UDMA ATA100	UDMA ATA100	UDMA ATA100
Serial ATA/Ports	SATA150/2	SATA150/2	SATA150/2	SATA150/2	SATA150/2	No	No	No	No
Intel® RAID Technology	RAID w/ICH5R	RAID w/ICH5R	RAID w/ICH5R	RAID w/ICH5R	RAID w/ICH5R	N/A	N/A	N/A	N/A
USB/Ports	USB 2.0/8 ports	USB 2.0/8 ports	USB 2.0/8 ports	USB 2.0/8 ports	USB 2.0/8 ports	USB 2.0/6 ports	USB 2.0/6 ports	USB 2.0/6 ports	USB 2.0/6 ports
Integrated LAN MAC	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
GbE Dedicated Network Bus	Yes	Yes	Yes	Yes	Yes	No	No	No	No
AC'97	Enhanced 20-bit Audio	Enhanced 20-bit Audio	Enhanced 20-bit Audio	Enhanced 20-bit Audio	Enhanced 20-bit Audio	Enhanced 20-bit Audio	Enhanced 20-bit Audio	Enhanced 20-bit Audio	Enhanced 20-bit Audio
GMCH/MCH	82875P	82865PE	82865G	82865GV	82848P	82845PE	82845GE	82845GV	82845GL
GMCH/MCH Package	1005 FCBGA	932 FCBGA	932 FCBGA	932 FCBGA	932 FCBGA	760 FCBGA	760 FCBGA	760 FCBGA	760 FCBGA
Supported Intel® ICH	ICH5 (82801EB) ICH5R (82801ER)	ICH5 (82801EB) ICH5R (82801ER)	ICH5 (82801EB) ICH5R (82801ER)	ICH5 (82801EB) ICH5R (82801ER)	ICH5 (82801EB) ICH5R (82801ER)	ICH4 (82801DB)	ICH4 (82801DB)	ICH4 (82801DB)	ICH4 (82801DB)
ICH Package	460 mBGA	460 mBGA	460 mBGA	460 mBGA	460 mBGA	421mBGA	421mBGA	421mBGA	421mBGA

 800-, 533- and 400-MHz System Bus Support  
Optimized for Hyper-Threading Technology

 533- and 400-MHz System Bus Support

 ICH4

 ICH5